

AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions and listing of claims in the above-referenced application.

Listing of Claims:

1. (Currently Amended) A method of managing data in a cache, comprising:

providing a first cache memory containing data;
providing a second cache memory containing data, wherein at least some of the data contained in the first cache memory is the same as at least some of the data contained in the second cache memory, wherein data contained in said first and said second cache memories includes control data and corresponding disk data, said control data being replicated in said first and said second cache memories independent of whether said corresponding disk data is included in both said first and said second cache memories; and

in response to a request for data that is stored in both the first cache memory and the second cache memory, selecting which one of the first and second cache memories to use to obtain the requested data in accordance with an access balancing technique.

2. (Previously presented) A method, according to claim 1, wherein the access balancing technique includes at least one of: selection using round robin and selection based on statistical analysis.

3. (Previously presented) A method, according to claim 2, wherein the selection based on statistical analysis includes:

monitoring a number of accesses of the first cache memory over a predetermined amount of time;

monitoring a number of accesses of the second cache memory over the predetermined amount of time; and

selecting one of the cache memories having a lowest number of accesses over the predetermined amount of time.

4. (Cancelled)

5. (Currently Amended) A method, according to claim [[4]] 1, wherein a first balancing technique is used to balance access to the control data and a second balancing technique is used to balance access to the disk data.

6. (Original) A method, according to claim 5, wherein the first and second balancing techniques are the same.

7. (Previously presented) A method, according to claim 6, wherein the first and second access balancing techniques include at least one of: selection using round robin and selection based on statistical analysis.

8. (Currently Amended) ~~A method, according to claim 5, A method of managing data in a cache,~~
comprising:

providing a first cache memory containing data;

providing a second cache memory containing data, wherein at least some of the data
contained in the first cache memory is the same as at least some of the data contained in the
second cache memory;

in response to a request for data that is stored in both the first cache memory and the
second cache memory, selecting which one of the first and second cache memories to use to
obtain the requested data in accordance with an access balancing technique; and

subdividing the data contained in said first and said second cache memories into control
data and corresponding disk data, wherein a first balancing technique is used to balance access
to the control data and a second balancing technique is used to balance access to the disk data,
and wherein the first and second balancing techniques are different.

9. (Previously presented) A method, according to claim 8, wherein the first access balancing technique includes at least one of: selection using round robin and selection based on statistical analysis.

10. (Previously presented) A method, according to claim 9, further comprising:

in response to selecting the first cache memory for accessing the control data, accessing
the second cache memory for the corresponding disk data; and

in response to selecting the second cache memory for accessing the control data,
accessing the first cache memory for the corresponding disk data.

11. (Previously presented) A method, according to claim 9, wherein the second access balancing technique includes at least one of: selection using round robin and selection based on statistical analysis.

12. (Currently Amended) A method, according to claim 1, wherein selecting which one of the first and second cache memories includes using specialized hardware.

13. (Original) The method of Claim 12, wherein the specialized hardware includes at least one chip.

14. (Currently Amended) The method of Claim 12, further comprising:

receiving, by the specialized hardware, requests for data from at least one of the first and second cache memories.

15. (Original) The method of Claim 14, further comprising:

processing, by the specialized hardware, the requests in accordance with the access balancing technique.

16. (Currently Amended) The method of Claim 15, further comprising:

subdividing the data contained in said first and ~~said~~ second cache memories into control data and corresponding disk data.

17. (Original) The method of Claim 16, further comprising:

using the specialized hardware to access at least one of said control data and said corresponding disk data.

18. (Currently Amended) A system for managing data in a cache comprising:

a first cache memory containing data;

a second cache memory containing data wherein at least some of the data contained in the first cache memory is the same as at least some of the data contained in the second cache memory, wherein data contained in said first and said second cache memories includes control data and corresponding disk data, said control data being replicated in said first and said second cache memories independent of whether said corresponding disk data is included in both said first and said second cache memories; and

cache selection hardware for selecting, in response to a request for requested data that is stored in both the first cache memory and the second cache memory, which one of the first and second cache memories to use to obtain the requested data in accordance with an access balancing technique.

19. (Currently Amended) The system of Claim 18, wherein said access balancing technique is a first access balancing technique and the system further comprises:

machine executable code for selecting which one of the access balancing technique and a second access balancing technique to use to obtain data stored in both the first and second cache memories;

machine executable code for selecting, in response to a request for requested data that is stored in both the first cache memory and the second cache memory and selecting said second access balancing technique, which one of the first and second cache memories to use to obtain the requested data in accordance with [[a]] said second access balancing technique.

20. (Cancelled)

21. (Currently Amended) The system of Claim [[20]] 18, wherein said cache selection hardware is used in implementing one of the first and second access balancing techniques, and the machine executable code is used in implementing a different one of the first and second balancing techniques than the cache selection hardware.

22. (Currently Amended) The system of Claim [[20]] 18, wherein said cache selection hardware is used in implementing at least one of said first and second balancing techniques, and the machine executable code is used in implementing at least one of said first and second balancing techniques.

23. (Previously presented) The system of Claim 21, wherein said first and second access balancing techniques include at least one: selection using round robin and selection based on statistical analysis.

24. (Previously presented) The system of Claim 22, wherein said first and second access balancing techniques include at least one: selection using round robin and selection based on statistical analysis.

25. (Currently Amended) The system of Claim 24, wherein the cache selection hardware ~~includes:~~

~~first hardware for selecting~~ selects the first cache memory for accessing the control data;

and

~~second hardware, coupled to the first hardware, for accessing~~ selects the second cache memory for the disk data corresponding to the control data when said first cache memory is used for accessing the control data.

26. (Currently Amended) The system of Claim 25, wherein the cache selection hardware ~~further includes:~~

~~third hardware for selecting~~ selects the second cache memory for accessing the control data; and

~~fourth hardware, coupled to the third hardware, for accessing~~ accesses the first cache memory for the disk data corresponding to the control data when said second cache memory is used for accessing the control data.

27. (Previously presented) The system of Claim 24, wherein said machine executable code includes machine executable code for:

selecting the first cache memory for accessing the control data; and

accessing the second cache memory for the disk data corresponding to the control data when said first cache memory is used for accessing the control data.

28. (Original) The system of Claim 27, wherein said machine executable code further includes machine executable code for:

selecting the second cache memory for accessing the control data; and

accessing the first cache memory for the disk data corresponding to the control data when said second cache memory is used for accessing the control data.

29. (Previously presented) The system of Claim 18, further comprising:

a first bus used for sending communications between at least one of the first cache memory and the second cache memory, and the cache selection hardware; and

a second bus used for sending communications between at least one of the first cache memory and the second cache memory, and the cache selection hardware.

30. (Previously presented) The system of Claim 29, wherein said first bus is used for facilitating communications between said cache selection hardware and said first cache memory, and said second bus is used for facilitating communications between said cache selection hardware and said second cache memory.

31. (Currently Amended) A computer program product stored on a computer readable medium for managing data in a cache, comprising:

machine executable code for providing a first cache memory containing data;

machine executable code for providing a second cache memory containing data, wherein at least some of the data contained in the first cache memory is the same as at least some of the data contained in the second cache memory, wherein data contained in said first and said second cache memories includes control data and corresponding disk data, said control data being replicated in said first and said second cache memories independent of whether said corresponding disk data is included in both said first and said second cache memories; and

machine executable code for, in response to a request for data that is stored in both the first cache memory and the second cache memory, selecting which one of the first and second cache memories to use to obtain the requested data in accordance with an access balancing technique.

32. (Currently Amended) The computer program product, according to Claim 31, wherein the machine executable code for selecting which one of the first and second cache memories to use to obtain the data in accordance with an access balancing technique, includes machine executable code for at least one of: selection using round robin and selection based on statistical analysis.

33. (Currently Amended) The computer program product, according to claim 32, wherein the machine executable code for selection based on statistical analysis, ~~further~~ includes machine executable code for:

monitoring a number of accesses of the first cache memory over a predetermined amount of time;

monitoring a number of accesses of the second cache memory over the predetermined amount of time; and

selecting one of the cache memories having a lowest number of accesses over the predetermined amount of time.

34. (Cancelled).

35. (Currently Amended) The computer program product, according to claim ~~[[34]]~~ 31, further comprising machine executable code for a first balancing technique used to balance access to the control data and a second balancing technique used to balance access to the disk data.

36. (Original) The computer program product, according to claim 35, wherein the first and second balancing techniques are the same.

37. (Previously presented) The computer program product, according to claim 36, wherein the machine executable code for the first and second access balancing techniques includes machine executable code for at least one of: selection using round robin and selection based on statistical analysis.

38. (Original) The computer program product, according to claim 35, wherein the first and second balancing techniques are different.

39. (Previously presented) The computer program product, according to claim 38, wherein the machine executable code for the first access balancing technique includes machine executable code for at least one of: selection using round robin and selection based on statistical analysis.

40. (Previously presented) The computer program product, according to claim 39, further comprising machine executable code for:

in response to selecting the first cache memory for accessing the control data, accessing the second cache memory for the corresponding disk data; and

in response to selecting the second cache memory for accessing the control data, accessing the first cache memory for the corresponding disk data.

41. (Previously presented) The computer program product, according to claim 39, wherein the machine executable code for the second access balancing technique includes machine executable code for at least one of: selection using round robin and selection based on statistical analysis.